

Generate Knowledge

Goals

NASA provides new scientific and technological knowledge gained from exploring the Earth system, the solar system, and the universe beyond, and from conducting the necessary supporting research and development. The Generate Knowledge Process ensures that this information is shared with scientists, engineers, and technologists in industry, academia, and other organizations. In addition, natural resource managers, policy-makers, and educators benefit from this process. The goals of the Generate Knowledge Process are to extend the boundaries of knowledge of science, technology, and engineering, to capture new knowledge in useful and transferable media, and to share new knowledge with customers.

The Generate Knowledge Process is conducted by NASA's three scientific research enterprises: the Space Science Enterprise (SSE); the Earth Science Enterprise (ESE); and the Office of Life and Microgravity Sciences and Applications within the Human Exploration and Development of Space Enterprise (OLMSA/HEDS).

The Generate Knowledge Process does not include research of a proprietary industrial nature or research whose conduct or dissemination is limited for reasons of national security.

As provided in the *NASA Strategic Management Handbook*, the Generate Knowledge Process is composed of eight principal sub-processes (section 6.1.2). The Generate Knowledge Strategic Objectives mirror that set of subprocesses as follows:

1. Acquire Advice,
2. Plan and Set Priorities,
3. Select and Fund/Conduct R&A Programs,
4. Select and Implement Flight Missions,
5. Analyze Data (Initial),
6. Publish and Disseminate Results,
7. Create Data Archives, and
8. Conduct Further Research.

Performance Measures

Under the Strategic structure of a single goal and 5 objectives, NASA has defined 7 Target areas for GK for Fiscal Year 2001. Each Target has specific indicators that will provide a quantitative manner to show performance. The goal, objectives and targets are:

Goal: Extend the boundaries of knowledge of science and engineering, to capture new knowledge in useful and transferable media, and to share new knowledge with customers.

Objective: Acquire advice from diverse communities.

- Target: The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will obtain scientific guidance from their investigator communities. 1G1

NASA relies on the guidance of outside customers and partners to maintain the vitality and efficacy of its research programs. This guidance is obtained through countless channels, both formal and informal. The principal vehicles for formal guidance are advisory committees chartered under the Federal Advisory Committee Act (FACA). At the conclusion of their meetings, which are conducted in conformance with the FACA statute, these committees develop and submit a letter report summarizing findings and recommendations. Each Strategic Enterprise has at least one advisory committee.

Objective: Plan and set research priorities

- Target: The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will develop and/or release updated enterprise strategic plans. 1G2

The Strategic Enterprises operate strategic planning systems that define their goals and objectives and support agency-wide strategic management processes. Consistent with the requirements of the GPRA of 1993, the NASA strategic plan must be updated every 3 years. To support this planning cycle, each of the research offices independently updates its own Strategic Plan on a periodic basis.

Objective: Select, fund, and conduct research programs

- Target: The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will use competitive merit review wherever possible to select performers for science and basic technology research. 1G3

For selecting, funding, and conducting both research and analysis and core technology projects, the Space Science Enterprise, OLMSA, and the Earth Science Enterprise will use broad Agency announcement (AO, NRA, and Cooperative Agreement Notice solicitations) to competitively award 80 percent or more of the resources in these programs based on peer review.

Objective: Archive data and publish, patent, and share results

- Target: The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will disseminate results of their research to a diverse population of users, including education users and the general public. 1G4

As a recipient of public funds for public purposes, NASA disseminates the results of its research in many forms to a client base whose interests range from highly technical to public information and educational. The primary means for the dissemination of OLMSA, Space Science Enterprise, and Earth Science Enterprise scientific findings are refereed journals, papers presented at professional meetings, and popular scientific periodicals. For all NASA research areas, collaborations with universities ensure that the insertion of the technical knowledge in academia and educational outreach to K-12 audiences is being expanded.

- Target: The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will make science data obtained widely accessible as soon as possible after receipt and will maintain these data in open archives. 1G5

It is NASA policy to make scientific data returned by science missions widely accessible as soon as possible after receipt and to maintain these data thereafter in openly accessible archive databases. OLMSA, the Space Science Enterprise, and the Earth Science Enterprise support a number of discipline-based archiving facilities and programs.

Objective: Collaborate with old new partner.

- Target: Work with other federal agencies and U.S. industry to complement and support our activities. 1G6

NASA strives to maximize the research outcomes by leveraging resources with other National agencies and the private industry. This target will establish and implement Memoranda of Understanding (MOUs) and Memoranda of Agreement (MOAs) with U.S. Federal agencies and industry for appropriate partnerships in research areas of shared interest.

- Target: Pursue mutually beneficial cooperative activities in aeronautics and space with other nations. 1G7

NASA strives to leverage resources with other space agencies with the goal of minimizing the duplication of efforts worldwide. This target will establish and implement Letters of Agreement (LOAs) and Memoranda of Understanding (MOUs) for appropriate partnerships with foreign space agencies for cooperative activities.

Generate Knowledge FY01 Performance Plan

Strategic Plan Goal	Strategic Plan Objective	01 #	FY01 Targets	FY01 Indicators
Extend the boundaries of knowledge of science and engineering, to capture new knowledge in useful and transferable media, and to share new knowledge with customers	Acquire advice from diverse communities	1G1	The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will obtain scientific guidance from their investigator communities.	At least seven letters of advice will be received from the enterprises' FACA-chartered advisory committees.
	Plan and set research priorities	1G2	The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will develop and/or release updated enterprise strategic plans.	The Space Science Enterprise and the Earth Science Enterprise will release new enterprise strategic plans, and OLMSA/HEDS will review its new strategic plan with their advisory bodies.
	Select, fund, and conduct research programs	1G3	The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will use competitive merit review wherever possible to select performers for science and basic technology research.	Taken together, the Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will use AOs, NRAs, and Cooperative Agreement Notice solicitations to award 80 percent or more of science and basic research funds via merit competition.
	Archive data and publish, patent, and share results	1G4	The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will disseminate results of their research to a diverse population of users, including education users and the general public.	Research programs of the Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS, taken together, will account for 5 percent of the 150 "most important stories" in the annual review by <i>Science News</i> . The three enterprises will achieve their individual indicators in education and public outreach and publication of research progress. The three enterprises will maintain and periodically update publicly accessible web sites for active missions.
		1G5	The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will make science data obtained widely accessible as soon as possible after receipt and will maintain these data in open archives.	The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will achieve their specific individual indicators for ensuring mission data maintenance and access.
	Collaborate with old and new partners	1G6	Work with other federal agencies and U.S. industry to complement and support our activities.	Establish and implement MOUs and MOAs with U.S. Federal agencies and industry for appropriate partnerships in research areas of shared interest.
		1G7	Pursue mutually beneficial cooperative activities in aeronautics and space with other nations.	Establish and implement LOAs and MOUs for appropriate partnerships with foreign space agencies for cooperative activities.

Generate Knowledge FY01	Budget Category	Space Science	Earth Science	HEDS	Aero-Space Technology
Performance Target					
The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will obtain scientific guidance from their investigator communities. (1G1)		X	X	X	
The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will develop and/or release updated enterprise strategic plans.(1G2)		X	X	X	
The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will use competitive merit review wherever possible to select performers for science and basic technology research. (1G3)		X	X	X	
The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will disseminate results of their research to a diverse population of users, including education users and the general public.(1G4)		X	X	X	
The Space Science Enterprise, the Earth Science Enterprise, and OLMSA/HEDS will make science data obtained widely accessible as soon as possible after receipt and will maintain these data in open archives. (1G5)		X	X	X	
Work with other federal agencies and U.S. industry to complement and support our activities. (1G6)		X	X	X	
Pursue mutually beneficial cooperative activities in aeronautics and space with other nations.(1G7)		X	X	X	